

ABSTRACT OF THE DISCLOSURE

An electron source forming substrate comprises an insulating material film provided on a substrate surface, where an electron-emitting device is arranged.

- 5      The insulating material film contains a metallic oxide and has a vacancy, so that the vacancy suppresses diffusion of Na from a substrate thereunder, thereby electron-emitting characteristic is maintained stable without adverse effect due to Na even after long time
- 10     operation.

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